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TRAJET
SÉCURISONS-LE!

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Accident data recorder (black box)

The system incorporates an electronic chip that constantly records the main vehicle parameters that are theoretically under the driver‘s control – speed, acceleration, deceleration, steering, braking, indicators, and lighting.

If an accident occurs, the system memorises the last 30 seconds and continues to record and memorise data for a further 15 seconds. These 45 seconds retained in the protected memory of the black box can be analysed in order to understand and explain what happened at the time of the accident.

To be able to collect and save information, the black box contains internal sensors (acceleration measurement devices, compass), and the indications they give are supplemented by the vehicle‘s own information (speed, braking, indicators, lighting, etc.).
All this is stored by a logic programme that protects the information from any manipulation (the redundancy of some of the data is an added guarantee of data integrity). The data can be extracted by a PC-type computer for analysis. An internal battery allows memory storage for several years, and to ensure confidentiality the box is sealed. There is little chance for fraud or falsification of the information.
The black box can have a psychological effect on the driver, encouraging him/her to adopt a more defensive driving style.

Toolbox

- To find out how a black box works, follow this **link**.

Alert system for unintentionally crossing the line

This is an innovative system capable of alerting the driver if he/she unintentionally goes over the line.
It works by using infrared sensors that detect the markings on roads and motorways:

- Cameras or infrared sensors fitted in the car and directed towards the ground monitor the road and detect when the white line has been crossed.
- If a continuous or discontinuous white line is crossed, the information is transmitted to a supervision calculator that trips the driver alert by means of a vibration in the driver‘s seat or a distinctive rumble-strip sound over the loudspeakers.

The system helps to avoid accidents caused by leaving the road that are often the result of drowsiness, fatigue, or momentary inattention on the part of the driver.

Toolbox

- To find out how an alert system for unintentionally crossing the line works, follow this **link**.

Fatigue detector

A fatigue detector alerts the driver, for example by a sound signal lasting a few seconds, when it detects a drop in concentration. It then suggests that the driver take a break. If the driver continues driving for a few more minutes nevertheless, a further alert is given.

The system analyses the driver‘s behaviour at the wheel at the start of each journey. During the journey, the detector constantly analyses signals such as the steering angle, and use of the pedals and acceleration. If the system notes a divergence from the behaviour recorded at the start of the journey, it issues a visual and audible warning.

Regardless of the behaviour of the vehicle‘s driver, most systems remind the driver of the need to take a break after an average of about four hours‘ uninterrupted driving, particularly during long or uneventful journeys.

„eCall“ – the European on-board system for making an emergency call

The eCall system, which uses sensors inside the vehicle, is directly connected to the airbags. In an emergency, a message indicating the location, direction of the vehicle, and the time of the accident is sent to the emergency number (112). An emergency call can also be initiated manually by the vehicle‘s occupants or automatically in the case of a serious accident. The system makes it possible not only to cut down the time taken for help to arrive when it is needed, but also to save the lives of people incapable of raising the alarm after an accident.

Toolbox

- To find out how eCall system works, follow this **link**.

Car breathalyser („alcolock“)

A car breathalyser is an electronic breathalyser connected to the vehicle‘s ignition. It prevents the car being started if the driver‘s measured alcohol level is above a pre-established limit.

To be able to start the car, the driver has to breathe into the device; if any alcohol is detected, it will be impossible to start the car for between 5 and 15 minutes. Once the breathalyser allows the car to be started, further tests to confirm the reading are required at random intervals every 45 to 60 minutes, for as long as the engine is running.

The device doesn‘t stop the engine immediately; the driver has enough time to stop the vehicle safely to submit to the test.

Toolbox

- To find out how the car breathalyser works, follow this **link**.